



RESEARCH FELLOW – GRAPH THEORY

DEPARTMENT/UNIT	School of Mathematical Sciences
FACULTY/DIVISION	Faculty of Science
CLASSIFICATION	Level A
WORK LOCATION	Clayton campus

ORGANISATIONAL CONTEXT

Everyone needs a platform to launch a satisfying career. At Monash, we give you the space and support to take your career in all kinds of exciting new directions. You'll have access to quality research, infrastructure and learning facilities, opportunities to collaborate internationally, as well as the grants you'll need to publish your work. We're a university full of energetic and enthusiastic minds, driven to challenge what's expected, expand what we know, and learn from other inspiring, empowering thinkers. Discover more at www.monash.edu.

The **Faculty of Science** works through frontiers via our research, teaching and our partnerships with industry, government and individual supporters. Our five Schools offer a large and diverse range of disciplines in undergraduate and postgraduate courses. Ten Schools from other university faculties contribute to science teaching at all levels, allowing students to choose their studies from physical, biological, biomedical, behavioural, environmental, mathematical and computer sciences. In terms of research, our respected researchers are at the top of their game. Their work spans the theoretical to the applied, contributes to new knowledge and technologies, and challenges how we interact with the world. To learn more about the Faculty of Science, please visit our website: www.monash.edu/science/.

The **School of Mathematical Sciences** is one of the largest of the six Schools in the Faculty, and has close working collaborations with other Schools/Departments such as Physics and Astronomy, Earth, Atmosphere, Environment; and other faculties such as Business and Economics, Arts, Medicine, IT and Engineering. The School has strong links with outside institutions such as CSIRO, the Defence Science and Technology Organisation, and the National Australia Bank and a large number of research institutes and universities around the world.

The School provides undergraduate teaching for students in the Faculties of Science, Engineering, Information Technology and Pharmacy and Pharmaceutical Sciences, as well as postgraduate training in its key areas of research. The School is multidisciplinary with very active groups in algebra and discrete mathematics, analysis and geometry, applied mathematics, fluid dynamics, statistics and stochastic processes, numerical analysis and scientific computing, operations research, mathematical biology.

POSITION PURPOSE

A Level A research-only academic will contribute towards the research effort of the University and to develop their research expertise through the pursuit of defined projects relevant to the particular field of research.

The Research Fellow will undertake research on extremal and structural graph theory, contributing to the Australian Research Council funded project DP190101898 “New directions in extremal and structural graph theory”.

Reporting Line: The position reports to a Professor within the School of Mathematical Sciences

Supervisory Responsibilities: Not Applicable

Financial Delegation: Not applicable

Budget Responsibilities: Not applicable

KEY RESPONSIBILITIES

Specific duties required of a Level A research-only academic may include:

1. Undertaking research under the supervision of a Professor in the field of extremal and structural graph theory either as a member of a team or, where appropriate, independently
2. Involvement in professional activities including, subject to availability of funds, presentations and attendance at conferences and seminars in the field of expertise
3. Preparation of results for publication in high quality journals
4. Limited administrative functions primarily connected with the area of research of the academic
5. A light teaching load in any area of mathematics, as dictated by the needs of the School
6. Attendance to and participation in weekly meetings of the Monash Discrete Mathematics Research Group
7. Assistance in advising honours and postgraduate students working on the research project

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
 - A PhD in mathematics or a related discipline from a recognised university; or
 - equivalent qualifications and research experience in the area; or
 - a reasonable expectation of completing their PhD thesis by the end of 2019

Knowledge and Skills

2. Strong problem solving ability
3. Solid mathematical knowledge
4. Solid knowledge of graph theory, including graph minor theory, extremal graph theory, or the probabilistic method
5. Excellent written communication and verbal communication skills with proven ability to produce clear and tight proofs
6. Proficiency with document preparation system, LaTeX
7. Well-developed planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines
8. Potential for publication of mathematics in high-quality journals, demonstrated analytical and manuscript preparation skills
9. A demonstrated awareness of the principles of confidentiality, privacy and information handling
10. A demonstrated capacity to work in a collegiate manner with other staff in the workplace

OTHER JOB RELATED INFORMATION

- Travel to other campuses of the University may be required
- There may be a requirement to work additional hours from time to time
- There may be peak periods of work during which taking of leave may be restricted

LEGAL COMPLIANCE

Ensure you are aware of and adhere to legislation and University policy relevant to the duties undertaken, including: Equal Employment Opportunity, supporting equity and fairness; Occupational Health and Safety, supporting a safe workplace; Conflict of Interest (including Conflict of Interest in Research); Paid Outside Work; Privacy; Research Conduct; and Staff/Student Relationships.